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EXAMINER

GEBREMICHAEL, BRUK A

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,686	<b>Applicant(s)</b> PAECH ET AL.	
	<b>Examiner</b> BRUK A. GEBREMICHAEL	<b>Art Unit</b> 3715	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/24/2008 has been entered.

2. Currently, claims 1-25 are canceled. New claims 26-42 have been added. Therefore, claims 26-42 are pending in this application.

### ***Response to Amendment***

3. Applicant has canceled claims 7, 16, 19-21 and 25. Accordingly the Examiner withdraws the 35 U.S.C. 112, first paragraph rejection set forth in the previous office action with regard to these claims.

Similarly, the Examiner withdraws the 35 U.S.C. 112, second paragraph rejection set forth in the previous office action with regard to claim 7.

### ***Claim Objections***

4. Claim 28 is objected to because of the following informalities: the phrase "words having one or the one or more consonant diagraphs" in line 2 of claim 28 is believed to be a typographical error for -- words having one or more consonant diagraphs --. Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- Claims 26-40 are rejected under 35 USC 101 as being directed to non-statutory subject matter because these are method or process claims that do not transform underlying subject matter (such as an article or materials) to a different state or thing, nor are they tied to another statutory class (such as a particular machine). See *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) (quoting *Benson*, 409 U.S. at 70); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978) (citing *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)). See also *In re Bilski* (Fed Cir, 2007-1130, 10/30/2008) where the Fed. Cir. held that method claims must pass the "machine-or-transformation test" in order to be eligible for patent protection under 35 USC 101.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claims 26-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The above claims recite the limitation "vowel letter representations" and "consonant letter representations", for example see claim 26, lines 3 and 12. It is not clear whether the *vowel letters* or the *vowel sounds* that are represented by the

Art Unit: 3715

characters. The same is true with regard to the *consonant letters* (i.e. it is not clear whether the *consonant letters* or the *consonant sounds* that are represented by the characters). According to Applicant's current specification, it is the *vowel sounds/consonant sounds* that are represented by the different characters, but NOT the *vowel letters/consonant letters* (e.g. see Applicant's specification, pages 10-21).

7. Claim 41 recites, "a conversion means for converting each of the plurality of words into a converted form" in line 16, and "a display means for displaying a word in a converted form" in line 22 of this claim. These claimed limitations invoke the 35 U.S.C. 112, sixth paragraph according to the means plus function requirement, since the claimed limitations are described in terms of their function, not their mechanical structure.

According to Applicant's specification, the "*conversion means for converting each of the plurality of words into a converted form*" is a computer having a converter program that initiates the conversion process as the "accent button" is triggered (e.g. page 19, lines 30-36 of Applicant's specification). Similarly, the "display means for displaying a word in a converted form" is a computer monitor (e.g. page 18, line 24 of Applicant's specification).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- Claims 26-29, 33-35, 39 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rai 6,077,080 in view of Sprague 4,768,959.

Regarding claim 26, Rai discloses the following claimed limitations; a method of encoding words for language teaching, the method comprising identifying a plurality of different vowel sounds each capable of representation in a word by one or more vowel letter representations, each of the one or more vowel letter representations including one or more letter characters (see FIG 1, *Rows 1-5*), assigning a single vowel color to the plurality of different vowel sounds (col.3, lines 17-26), storing the vowel sound numbers and the single vowel color for the plurality of different vowel sounds (FIG 1), identifying a plurality of different consonant sounds each capable of representation in a word by one or more consonant letter representations, each of the one or more consonant letter representations including one or more letter characters (FIG 2), assigning each of the plurality of consonant sounds a consonant color that is different from the single vowel color (col.4, lines 14-20), storing the consonant color for the plurality of different consonant sounds (FIG 2), identifying one or more silent letters occurring in words, assigning the one or more silent letters a silent letter color that is different from the consonant color and the single vowel color (col.6, lines 16-22), storing the silent letter color for the one or more silent letters (FIG 6), wherein letter characters of vowel letter representations of words are represented by the single vowel color, each vowel letter representation of words is represented by a vowel sound number corresponding to the vowel sound for the vowel letter representation (col.3, lines 17-26 and FIG 1), letter characters of consonant letter representations of words are

Art Unit: 3715

represented by the consonant color (col.4, lines 14-20), and silent letters of words are represented by the silent letter color (col.6, lines 16-22).

Rai does not explicitly disclose, assigning each of the plurality of different vowel sounds a unique vowel sound number such that all of the plurality of different vowel sounds are assigned a unique vowel sound number.

However, Sprague teaches, assigning each of the plurality of different vowel sounds a unique vowel sound number such that all of the plurality of different vowel sounds are assigned a unique vowel sound number (col.4, lines 55-58 and also see FIG 1-7, label 44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Rai in view of Sprague by incorporating distinct numerals for each language elements and organizing these language elements and their distinct numeral and symbolic representations in a periodic table in order to allow students to pronounce new words and sentences based on their familiarity with the symbol and sound presented on the periodic table of the language elements.

Note that with regard to the limitation “a single vowel color for the plurality of different vowel sounds” (for example as recited in claims 1, 41 and 42), the Applicant has not disclosed any criticality as to why this feature is important to the current invention (or if this feature solves any stated problem). As disclosed in the Applicant’s current specification, assigning a single vowel color to the plurality of different vowel sounds is described as one alternative of representation (e.g. see page 4, lines 25-27).

Art Unit: 3715

This feature appears to be a design choice, and therefore does not distinguish the current invention from the prior art since the system of the prior art appears to work well for the intended purpose.

Rai in view of Sprague teaches the claimed limitations as discussed above. Rai further discloses;

Regarding claim 27, one or more of the plurality of different consonant sounds comprises one or more consonant diagraphs (FIG 2),

Regarding claim 28, each of the one or more consonant diagraphs is represented in words having one or the one or more consonant diagraphs by an underscore located underneath the letters of the consonant diagraph (FIG 2, e.g. *Row 1*),

Regarding claim 29, identifying a plurality of different consonant sounds includes identifying one or more letters that have a consonant sound that is different than a default sound for the one or more letters and further representing the consonant sound that is different than a default sound by a symbol (col.4, lines 20-28),

Regarding claim 33, each of the unique vowel sound numbers is represented by the single vowel color (col.3, lines 17-26),

Regarding claim 34, identifying a plurality of different vowel sounds includes identifying one or more vowel sounds that are capable of representation in words by a combination of letter characters and representing the combination of letter characters by the corresponding unique vowel sound number (FIG 1),

Regarding claim 35, displaying one or more words with the letter characters of vowel letter representations having the single vowel color (FIG 1, e.g. “a” as in “*apple*”),



Art Unit: 3715

each vowel letter representation having a unique vowel sound number corresponding to the vowel sound for the vowel letter representation (FIG 1, e.g. “ape”, “car”, “hair”), the letter characters of consonant letter representations having the consonant color (FIG 2), and silent letters having the silent letter color (col.6, lines 16-22),

Regarding claim 39, representing different strengths of one or more select vowel sounds of the plurality of different vowel sounds in one or more words by different levels of brightness or boldness of the single vowel color (see col.1, lines 38-44 and col.2, lines 50-55).

Regarding claim 41, Rai discloses the following claimed limitations; a system for teaching a language, the system comprising a database which stores a plurality of different vowel sounds each capable of representation in a word by one or more vowel letter representations, each of the one or more vowel letter representations including one or more letter characters (FIG 1, Rows 1-5 and col.7, lines 57-63), each of the plurality of different vowel sounds being represented by a vowel sound number and the plurality of different vowel sounds being represented by a single vowel sound color (FIG 1 and col3, lines 17-26), a plurality of different consonant sounds, each of the plurality of different consonant sounds represented by a consonant color that is different from the single vowel sound color (col.4, lines 14-19), a plurality of different silent letters occurring in words, each of the plurality of different silent letters represented by a silent letter color that is different from the single vowel sound color and the consonant color (col.6, lines 16-22), and a plurality of different words (FIG 13), a conversion means for converting each of the plurality of words into a converted form

Art Unit: 3715

comprising any letter characters of vowel letter representations having the single vowel color (col.7, lines 41-55), any vowel letter representations having a vowel sound number corresponding to the vowel sound for the vowel letter representation, any letter characters of consonant letter representations having the consonant color, and any silent letters having the silent letter color (col.7, lines 41-55), and a display means for displaying a word in converted form, the conversion means being adapted to convert a word input into the system and utilize the display means to display the word in converted form (col.7, lines 35-40 and FIG 13).

Rai does not explicitly disclose, each of the plurality of different vowel sounds being represented by a unique vowel sound number.

However, Sprague teaches, each of the plurality of different vowel sounds being represented by a unique vowel sound number (col.4, lines 55-58 and also see FIG 1-7, label 44).

Therefore, here also it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Rai in view of Sprague by incorporating distinct numerals for each language elements and organizing these language elements and their distinct numeral and symbolic representations in a periodic table in order to allow students to pronounce new words and sentences based on their familiarity with the symbol and sound presented on the periodic table of the language elements.

Regarding claim 42, Rai discloses the following claimed limitations; a computer readable medium including instructions for executing a method of encoding words for

Art Unit: 3715

language teaching, the instructions comprising a set of instructions for representing each of a plurality of different vowel sounds by a vowel sound number (col.7, lines 56-67), each of the plurality of different vowel sounds capable of representation in a word by one or more vowel letter representations, each of the one or more vowel letter representations including one or more letter characters (FIG 1, *Rows 1-5*), a set of instructions for representing the plurality of different vowel sounds by a single vowel sound color (col.3, lines 17-26), a set of instructions for representing each of a plurality of different consonant sounds by a consonant color that is different from the single vowel sound color (col.4, lines 14-19), each of the plurality of different consonant sounds capable of representation in a word by one or more consonant letter representations, each of the one or more consonant letter representations including one or more letter characters (FIG 2), a set of instructions for representing each of one or more silent letters by a silent letter color that is different from the single vowel sound color and the consonant color (col.6, lines 16-22), a set of instructions for displaying one or more words such that the one or more words comprise any letter characters of vowel letter representations having the single vowel color (FIG 1, e.g. see *Row 1*), any vowel letter representations having a vowel sound number corresponding to the vowel sound for the vowel letter representation, any letter characters of consonant letter representations having the consonant color, and any silent letters having the silent letter color (see FIG 1- FIG 2 and col.6, lines 16-22).

Rai does not explicitly disclose, representing each of the plurality of different vowel sounds by a unique vowel sound number.

Art Unit: 3715

However, Sprague teaches, representing each of the plurality of different vowel sounds by a unique vowel sound number (col.4, lines 55-58 and FIG 1-7, label 44).

Therefore, as already indicated above, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Rai in view of Sprague by incorporating distinct numerals for each language elements and organizing these language elements and their distinct numeral and symbolic representations in a periodic table in order to allow students to pronounce new words and sentences based on their familiarity with the symbol and sound presented on the periodic table of the language elements.

- Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rai 6,077,080 in view of Sprague 4,768,959 and furthering view of Stocker 4,713,008.

Regarding claim 30, Rai in view of Sprague teaches the claimed limitations as discussed above.

Rai in view of Sprague does not explicitly teach, the symbol is represented as a superscript to the corresponding one or more letters.

However, Stocker teaches, a symbol is represented as a superscript to the corresponding one or more letters (col.11, lines 4-18 and FIG 42, label 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Rai in view of Sprague and further in view of Stocker by including additional symbols to identify a word with a constant diagraph in order to help the student to pronounce the word without difficulty thereby facilitating the learning process.

Art Unit: 3715

- Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rai 6,077,080 in view of Sprague 4,768,959 and furthering view of Novak 3,715,812.

Regarding claim 31, Rai in view of Sprague teaches the claimed limitations as discussed above.

Rai in view of Sprague does not explicitly teach, identifying a plurality of different consonant sounds includes identifying one or more groups of a plurality of consonant letter representations having the same consonant sound.

However, Novak teaches, identifying a plurality of different consonant sounds includes identifying one or more groups of a plurality of consonant letter representations having the same consonant sound (see FIG 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention was made to modify the invention of Rai in view of Sprague and further in view of Novak by displaying to the student two or more words that have the same sound in order to help the student learn and realize the fact that some words have similar sounds even though they have different spelling, so that the student would be able to recognize such words that have same sounds when reading any given lesson material.

Regarding claim 32, Rai in view of Sprague and further in view of Novak teaches the claimed limitations as discussed above.

Art Unit: 3715

Rai further discloses, representing each of the one or more groups by a notation indicative of the pronunciation of the corresponding consonant sound (see col.4, lines 20-28).

- Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rai 6,077,080 in view of Sprague 4,768,959 and furthering view of McGinley 4,030,211.

Regarding claims 36 and 37, Rai in view of Sprague teaches the claimed limitations as discussed above.

Rai in view of Sprague does not disclose, displaying a matrix with sounds of one type along one axis and sounds of another type along another, displaying a composite of sounds from each axis by a zone corresponding to a point of intersection of the sounds on the matrix.

However McGinley teaches, displaying a matrix with sounds of one type along one axis and sounds of another type along another (col.4, lines 29-40), displaying a composite of sounds from each axis by a zone corresponding to a point of intersection of the sounds on the matrix (FIG 1, label 16 and col.3, lines 48-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Rai in view of Sprague and further in view of McGinley by incorporating a rectangular grid in order to enable the user to immediately focus on a word which is sounded by the consonant and vowel sound at the end of the respective line and column, as taught by McGinley (see col.4, lines 40-43).

Art Unit: 3715

- Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rai 6,077,080 in view of Sprague 4,768,959 and furthering view of Noble 6,729,882.

Regarding claim 38, Rai in view of Sprague teaches the claimed limitations a discussed above.

Rai in view of Sprague does not explicitly teach, searching for words including one or more of at least one of the plurality of different vowel sounds, at least one of the plurality of different consonant sounds, and at least one of the plurality of different silent letters.

However, Noble teaches, searching for words including one or more of at least one of the plurality of different vowel sounds, at least one of the plurality of different consonant sounds, and at least one of the plurality of different silent letters (col.15, lines 11-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention was made to modify the invention of Rai in view of Sprague and further in view of Noble by incorporating an input interface with a drop-down menu option in order to allow the user to perform any required selection (e.g. vowel letter/sound correspondence) so that the user would be able to initiate any search related to a particular vowel sound or consonant sound that he/she wants to learn.

- Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rai 6,077,080 in view of Sprague 4,768,959 and furthering view of Patton 2005/0032027.

Regarding claim 40, Rai in view of Sprague teaches the claimed limitations as discussed above.

Rai in view of Sprague does not explicitly teach, representing different strengths of consonant sounds in one or more words by different levels of brightness or boldness of the consonant color.

However, Patton teaches, representing different strengths of consonant sounds in one or more words by different levels of brightness or boldness of the consonant color (Para.0028).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Rai in view of Sprague and further in view Patton by varying the intensity of the color of the letter representing the consonant sound in order to help the student to identify the consonant sounds that have two or more sound options.

***Response to Arguments.***

8. Applicant's arguments filed on 12/24/2008 have been fully considered. In the remarks,

(1) Applicant argues that the Rai patent is directed to an education method. The relative vowel sounds in each family are assigned a numerical symbol. The numerical symbols repeat in each family such that the numerical symbols are not uniquely employed. The root sounds in each family do not include a symbol. The Rai patent fails to disclose or suggest a method of encoding words according to claim 26. For example, the Rai patent does not disclose or suggest assigning each of a plurality of different vowel sounds a unique vowel sound number, as required by claim 26.



Art Unit: 3715

- In response to argument (1), the Examiner respectfully disagrees. The Rai patent does teach or suggest the representation of the different vowel sounds by using symbols and numbers. For instance FIG 1 illustrates the representation of the vowel sounds of the five vowels. According to this teaching, for example the different vowel sounds of vowel “a” are represented by characters (*ape*, *car*, *hair*) and also the numerical symbols (1, 2, 3) above the letter “a” in each word respectively. Moreover, the figure includes various images that relates to the meaning of the words to help the student identify the sounds. Therefore, it is clear from the teaching of Rai that the different vowel sounds are indeed represented by different symbols (including numerical symbols) to aid the reader pronounce the respective vowel sounds accurately.

The only limitation that Rai fails to teach or suggest is the representation of the different vowel sounds using unique vowel sound number. However, as already indicated in the previous office action (and also in this current office action), Sprague’s patent does teach or suggest the perception of assigning unique numbers to the different vowel sounds.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention was made to modify the invention of Rai in view of Sprague by allocating distinct numbers for the different vowel sounds (and also the consonant sounds) and displaying them on a table (periodic table) in order to help students to read or accurately pronounce words by easily locating the numbers corresponding to the sound representations, thereby increasing the students chance to accurately pronounce new words.

Art Unit: 3715

(2) Applicant argues that the Rai patent does not disclose or suggest assigning a single vowel color to the plurality of different vowel sounds, as required by claim 26. The Rai patent method specifically requires the use of multiple colors in order to assist the user in identifying particular vowel sounds.

- In response to argument (2), the Examiner respectfully disagrees. The Rai patent does teach or suggest assigning a single vowel color to plurality of vowel sounds. Note that as long as Rai teaches the representations of two different vowel sounds using the same color, the above claimed feature is met. The Examiner includes the following teaching from Rai's patent.

For instance the line, "The root color **red** denotes the **short sound of "a" vowel** and shows the key word and its image of "*apple*". The image helps to imprint the color red, the key word and the distinct short sound of "a". The red colored letter has a similar vowel sound as "apple" such in BAT, CAT, ANT, etc. The first relative sound of the family color **red** with a symbol "1" above the letter is a **long "a" vowel**. It is represented by "*ape*" as the key word image. The red ape and the red "1" images aid the linking to the key sounding of a long "a" such in ATE, EIGHT, PREY, etc. . ." (col.2, lines 66-67 and col.3, lines 1-8), teaches or suggests the above claimed feature. In this teaching, at least **two different vowel sounds** (i.e. the *short vowel sound* of "a" and the *long vowel sound* of "a") are both represented by **the same color** (in this case *red* color). Therefore, one of ordinary skill in the art would easily recognize the representation of plurality of different vowel sounds using the same color (i.e. single color), as already taught or suggested by the Rai's patent.

Art Unit: 3715

(3) Applicant argues that Sprague's patent fails to disclose a method of encoding words, let alone a method of encoding words according to claim 26. Thus, the Sprague patent fails to cure the deficiencies of the Rai patent. For example, the Sprague patent does not disclose or suggest assigning a color to vowel sounds, let alone assigning a single vowel color to a plurality of different vowel sounds, as required by claim 26. The Sprague patent does not disclose or suggest assigning any color to any sounds.

- In response to argument (3), the Examiner respectfully disagrees. The above argument appears to be a piecemeal analysis (attacking a single reference) even though obviousness analysis under 35 U.S.C. 103 should be considered based on the combination of the references. The Examiner has already indicated that the Rai's patent teaches or suggests the limitations with regard to *assigning color to vowel sounds*, *storing vowel sound color*, etc. Therefore, the secondary reference (Sprague's patent) does not have to teach the limitations that are already suggested by the primary reference.

Thus, what is required from Sprague's patent is to teach or suggest the limitation that the primary reference (Rai's patent) fails to disclose (i.e. "*assigning each of the plurality of different vowel sounds a unique vowel sound number such that all of the plurality of different vowel sounds are assigned a unique vowel sound number*"). However, as already indicated in the above section (*claim rejections 35 U.S.C. 103*), Sprague's patent does teach or suggest this limitation.

For instance, as illustrated in FIG 1 of Sprague's invention, the vowel sound of "a" as in "ape" is assigned the number "0" whereas the vowel sound of "a" as in "ant" is

Art Unit: 3715

assigned the number “1”. In the same way, the vowel sound of “i” as in “ice” is assigned the number “10”; and the vowel sound of “i” as in “in” is assigned the number “11”. Such unique assignment of numbers for the different vowel sounds is established throughout the table.

Therefore, the Examiner concludes that Sprague’s patent has already taught or suggested the use of unique numbers to represent the different vowel sounds, and thus one of ordinary skill in the art would use Sprague’s invention to modify Rai’s invention for the reasons discussed above (see for example response to argument (1) above).

- The Examiner has carefully reviewed Applicant’s argument with regard to the new claims. For instance, with regard to the new independent claims (claims 41 and 42), the argument appears to reflect the same issues discussed with respect to independent claim 26. Therefore, the response given with respect to independent claim 26 also applies to claims 41 and 42.

Similarly, with regard to the rest of references (*Stocker’ patent*, *McGinley’s patent* and *Patton’s publication*), Applicant in general indicated that these references do not cure the deficiencies of Rai’s patent and Sprague’s patent.

However, it has already been indicated above that these references are used to teach claimed features that are not positively taught or suggested by the primary reference, Rai (and also Sprague’s reference). For example, claim 30 recites, “*symbol is represented as a superscript to the corresponding one or more letters*”. This feature is not positively taught by the combined teaching of Rai and Sprague. However, Stocker’s invention teaches or suggests this feature; and therefore, one of ordinary skill in the art

Art Unit: 3715

at the time of Applicant's claimed invention was made would have combined Stocker's invention, with the combined teaching of Rai and Sprague by incorporating symbols at the top of the corresponding sound in a given word in order to assist a given learner pronounce words accurately. The same type of analysis is used with regard to the *McGinley's patent* and *Patton's publication*.

Therefore, the Examiner concludes that Applicant's currently claimed invention has already been taught or suggested by the prior art for the reasons discussed above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruk A. Gebremichael whose telephone number is (571) 270-3079. The examiner can normally be reached on Monday to Friday (7:30AM-5:00PM) ALT. Friday OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3715

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/Bruk A Gebremichael/  
Examiner, Art Unit 3715

/Cameron Saadat/  
Primary Examiner, Art Unit 3715